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EXAMINER
CHANKONG, DOHM

ART UNIT	PAPER NUMBER
2152	

DATE MAILED: 04/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/767,465	SUMMERS ET AL.	
	Examiner	Art Unit	
	Dohm Chankong	2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1> Applicant's request for continued examination has been received. Claims 1-48 are presented for further examination.

Continued Examination Under 37 CFR 1.114

2> A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3.7.2005 has been entered.

Response to Arguments

3> Applicant's arguments with respect to claims 1-48 have been considered but are moot in view of the new ground(s) of rejection.

4> Applicant asserts in his arguments (and during the interview) that a differentiating feature between the claimed invention and the prior art is that the tunnel is "preestablished and on-going". Examiner would like to note that the amended limitations to the independant claims do not make this immediately obvious and in fact, render the claims indefinite [see claim rejections that follow]; for example, claim 1 is amended to claim an "existing data tunnel". However, this limitation suffers from a proper antecedent problem because nothing in claim 1 clearly defines that the data tunnel must exist before receiving an access request

from a user (the order in which the limitations are presented in the claims do not mandate that they are carried out in that particular order in the prior art, unless distinctly defined by the claim language, such as having proper antecedent basis).

Additionally, the other independent claims disclose a "pre-opened data tunnel". This limitation also suffers from a proper antecedent problem because nothing in the claims clearly and distinctly defines that the data tunnel is pre-opened; merely that the tunnel is kept open between the data center and the enterprise network.

Claim Rejections - 35 USC § 112

5> The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6> Claims 1-38 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claims 1 and 23 are rejected for lacking proper antecedent basis: "the data channel".

b. Claims 1 and 34 are rejected for lacking proper antecedent basis: "the existing tunnel". The relationship between "the existing tunnel" and the previously claimed "data tunnel" is vague and indefinite. A defined relationship with proper antecedent basis is required. Additionally, it is noted that there are two data tunnels referenced in

the claim (one in the preamable and one in the first limitation); therefore, it would be unclear which data tunnel is being referenced.

c. Claims 13, 23, and 34 are rejected for lacking proper antecedent basis: "the pre-opened tunnel".

Claim Rejections - 35 USC § 103

7> The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8> Claims 1, 2, 9, 10, 13-16, 21-23, 26-34, 35, 37, 38 are rejected under 35 U.S.C 103(a) as being unpatentable over Salo et al (hereinafter Salo), U.S Patent No. 6,563,800 in view of Hanson et al, U.S Patent No. 6.546.425 ["Hanson"].

9> As to claim 1, Salo teaches a method in a data center capable of communicating with a remote enterprise network, for enabling a user to access network data of the remote enterprise network through a data tunnel between the data center and the remote enterprise network that operates as a virtual private network (abstract), the method comprising the acts of:

establishing a data tunnel with a remote enterprise network, the data tunnel operating as a virtual private network [Figure 6 | column 11 «lines 4-7»];

receiving an access request from the remote enterprise network [column 9 «lines 4-11» where : the address or URL is analogous to an access request];

receiving an access request to access network data of the remote enterprise network from the user (column 6, lines 10-17);

transmitting the access request to the remote enterprise network using the data tunnel (column 6, lines 43-47);

receiving the network data from the remote enterprise network in response to the access request (column 6, lines 24-27); and

transmitting the network data to the user (column 6, lines 26-28).

Salo does not dislcose transmitting ongoing reply data to the remote enterprise network such that the data channel is kept open or that the access request is transmitted using an existing data tunnel.

10> In the same field of invention, remote access of an enterprise network, Hanson discloses establishing a connection between a data center and a remote enterprise network [column 2 «lines 45-60»]. Hanson further discloses transmitting ongoing reply data to the remote enterprise network such that the connection is kept open [column 8 «lines 54-60» where : when the mobile end system loses its connection, the mobility server keeps the connection with the enterprise network active by acknowledging receipt of data, which is comparable to ongoing reply data], and that an access request from a user is transmitted using the existing connection [Figure 2 | column 9 «line 55» to column 10 «line 7» | column column 27 «lines 37-39 and 43-45» where : when Hanson's mobile end system reestablishes its

connection to the mobility server, the mobile end system continues to transmit requests using the previously established connection with the remote enterprise network (fixed-end system) that was kept open by the mobility server].

It would have been obvious to one ordinary skill in the art to incorporate Hanson's persistent connection functionality into Salo's data center. One would have been motivated to provide such an implementation to enhance Salo's ability to deal with dropped connections by its wireless device. Currently Salo handles dropped connections by simply trying to reestablish the tunnel [column 14 «lines 65-67»]; Hanson is clearly directed towards curing this deficiency by providing a means for establishing a persistent connection between a data center (Hanson's mobility server) and a remote enterprise network such that when the user's end system loses its connection, the connection to the enterprise network is maintained and data loss is kept to a minimum [see Hanson, column 2 «lines 8-17»].

11› As to claim 2, Salo teaches a method wherein the access request is received by a designated server, and wherein the designated is one of multiple servers of the data center (column 9, lines 55-61).

12› As to claim 9, Salo teaches a method wherein the act of receiving an access request to access network data of the remote enterprise network from the user further comprises the act of authenticating the identity of the user (column 8, lines 46-50).

13> As to claim 10, Salo teaches a method wherein authenticating the identity of the user comprises the act of receiving a valid personal identification number (column 9, lines 12-18).

14> As to claim 13, Salo teaches a method, in an enterprise network capable of communicating with a remote data center network, for enabling a user to access network data of the enterprise network through a data tunnel between the remote data center and the enterprise network that operates as a virtual private network (abstract), the method comprising the acts of:

transmitting a data request to the remote data center to establish a data tunnel with the remote data center (column 12, lines 35-38);

receiving, from the remote data center, an access request to access network data of the enterprise network, the access request having been received by the remote data center from the user and thereafter transmitted by the remote data center to the enterprise network through the data tunnel (column 6, lines 43-47 and column 11, lines 1-9); and

in response to the access request transmitting the network data to the remote data center such that the user is enabled to access the network data (column 12, lines 1-5).

Salo does disclose establishing a data tunnel operating as a virtual private network between a remote data center and a remote enterprise network [column 4, lines 2-4, column 6, lines 14-17 and column 13, lines 1-8], but does not explicitly disclose receiving ongoing reply data from the remote data center, such that a data tunnel is kept open between the remote data center and the enterprise network or that the data tunnel is pre-opened.

15> In the same field of invention, remote access of an enterprise network, Hanson discloses establishing a connection between a data center and a remote enterprise network [column 2 «lines 45-60»]. Hanson further discloses transmitting ongoing reply data to the remote enterprise network such that the connection is kept open [column 8 «lines 54-60» where : when the mobile end system loses its connection, the mobility server keeps the connection with the enterprise network active by acknowledging receipt of data, which is comparable to ongoing reply data], and that an access request from a user is transmitted using the pre-opened connection [Figure 2 | column 9 «line 55» to column 10 «line 7» | column column 27 «lines 37-39 and 43-45» where : when Hanson's mobile end system reestablishes its connection to the mobility server, the mobile end system continues to transmit requests using the previously opened connection with the remote enterprise network (fixed-end system) that was kept open by the mobility server].

It would have been obvious to one ordinary skill in the art to incorporate Hanson's persistent connection functionality into Salo's data center. One would have been motivated to provide such an implementation to enhance Salo's ability to deal with dropped connections by its wireless device. Currently Salo handles dropped connections by simply trying to reestablish the tunnel [column 14 «lines 65-67»]; Hanson is clearly directed towards curing this deficiency by providing a means for establishing a persistent connection between a data center (Hanson's mobility server) and a remote enterprise network such that when the user's end system loses its connection, the connection to the enterprise network is pre-opened and data loss is kept to a minimum [see Hanson, column 2 «lines 8-17»].

16> As to claim 14, Salo teaches a method wherein the data request includes a uniform resource identifier (column 10, lines 48-57).

17> As to claim 15, Salo teaches a method wherein the data request is transmitted through a firewall (column 12, lines 56-61).

18> As to claim 16, Salo teaches a method wherein the data request is transmitted through a proxy server (column 12, lines 52-56).

19> As to claim 21, Salo teaches a method wherein upon receiving the access request, the method further comprises the act of:

performing an act upon the network data (column 6, lines 28-32).

20> As to claim 22, Salo teaches a method wherein performing an act upon the network data includes retrieving email message data (column 6, lines 20-28 and column 10, lines 35-39).

21> As to claim 23, Salo teaches a method in a data center capable of communicating with a remote enterprise network, for enabling a user to access network data of the remote enterprise network through a data tunnel between the data center and the remote enterprise network that operates as a virtual private network (abstract, column 12, lines 35-43), the method comprising the acts of:

receiving an access request to access network data of the remote enterprise network

from the user to establish a data tunnel with the resource of the server (column 6, lines 10-17);

receiving an access request to access network data of the remote enterprise network from the user (column 6, lines 10-17);

inserting the access request into the ongoing reply data and transmitting the access request to the remote enterprise network using the data tunnel (column 6, lines 14-20 and column 11, lines 4-7).

receiving the network data from the remote enterprise network in response to the access request (column 6, lines 24-27); and

transmitting the network data to the user (column 6, lines 27-28).

Salo does disclose opening a tunnel operating as a virtual private network (column 4, lines 2-4, column 6, lines 14-17 and column 18, lines 42-45) but does not explicitly disclosetransmitting the ongoing reply data to the remote enterprise network, such that a data tunnel is kept open between the data center and the remote enterprise network. Salo also does not disclose:

receiving, from the remote enterprise network, a uniform resource identifier associated with a resource of a server of the data center; and

in response to receiving the uniform resource identifier, invoking the resource to generate ongoing reply data.

22> In the same field of invention, remote access of an enterprise network, Hanson discloses establishing a connection between a data center and a remote enterprise network [column 2 «lines 45-60»]. Hanson further discloses transmitting ongoing reply data to the

remote enterprise network such that the connection is kept open [column 8 «lines 54-60» where : when the mobile end system loses its connection, the mobility server keeps the connection with the enterprise network active by acknowledging receipt of data, which is comparable to ongoing reply data], and that an access request from a user is transmitted using the pre-opened connection [Figure 2 | column 9 «line 55» to column 10 «line 7» | column column 27 «lines 37-39 and 43-45» where : when Hanson's mobile end system reestablishes its connection to the mobility server, the mobile end system continues to transmit requests using the previously opened connection with the remote enterprise network (fixed-end system) that was kept open by the mobility server].

It would have been obvious to one ordinary skill in the art to incorporate Hanson's persistent connection functionality into Salo's data center. One would have been motivated to provide such an implementation to enhance Salo's ability to deal with dropped connections by its wireless device. Currently Salo handles dropped connections by simply trying to reestablish the tunnel [column 14 «lines 65-67»]; Hanson is clearly directed towards curing this deficiency by providing a means for establishing a persistent connection between a data center (Hanson's mobility server) and a remote enterprise network such that when the user's end system loses its connection, the connection to the enterprise network is pre-opened and data loss is kept to a minimum [see Hanson, column 2 «lines 8-17»].

23› Additionally, at the time the invention was made, it would have been obvious to one of ordinary skill in the art to modify Salo's enterprise to initiate the connection and data tunnel with the data center by sending a uniform resource identifier associated with a

resource, instead of having the data center initiate the connection and data tunnel with the enterprise network by sending a uniform resource identifier (column 10, lines 48-55 and column 11, lines 1-10), as disclosed by Salo. Applicant has not disclosed that having the enterprise network initiate the connection and data tunnel provides an advantage over having the data center initiate the connection, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's claimed invention to perform equally well with having the data center initiating the connection to the enterprise network by sending a uniform resource identifier to the network because the goal of establishing a connection between the data center and the enterprise network, and invoking a resource within the enterprise network to initiate the tunnel between the data center and the network is accomplished equally as well as Applicant's claimed invention.

24> As to claim 26, Salo teaches a method wherein the act of receiving an access request to access network data of the remote enterprise network from the user further comprises the act of authenticating the identity of the user (column 9, line 52).

25> As to claim 27, Salo teaches a method wherein authenticating the identity of the user comprises the act of receiving a valid personal identification number (column 9, lines 12-18).

26> Claim 28 is a claim to a computer program product and a computer-readable medium to perform the steps of the method of claim 1. Therefore, claim 28 is rejected for the reasons set forth in above paragraphs 7 and 8.

27> As to claim 29, Salo teaches a computer program product wherein the computer-executable instructions further comprise program code means for authenticating the identity of the user (column 9, line 12-20 and lines 40-46).

28> As to claim 30, Salo teaches a computer program product wherein the computer-executable instructions further comprise program code means for enabling telephony nodes of the data center to receive the access request and to transmit the access request to a designated server, wherein the designated server is transmitting the ongoing reply data to the remote enterprise network (Figure 1C, items 100, 110, 120, 122, 140 and 164 where the telephony node is item 120 since it receives data from wireless devices and item 164 is the dedicated server).

29> As to claim 31, Salo teaches a computer program product wherein the designated server is one of multiple servers of the data center, and wherein the user generates the access request using a telephone system (Figure 1C, item 164, column 9, lines 55-61 and column 6, lines 12-13).

30> As to claim 32, Salo teaches a computer program product wherein the computer-executable instructions further comprise program code means for caching a copy of network data in a database of the data center (column 11, lines 30-32).

31> As to claim 33, Salo teaches a computer program product wherein the computer-executable instructions further comprise program code means for transmitting the cached copy of the network data to the user in response to receiving the access request from the user (column 11, lines 35-47).

32> As to claim 34, as it is a method that does not disclose or further define over the claimed limitations of claim 13, claim 34 is rejected for the same reasons set forth for claim 34.

33> As to claim 35, Salo teaches a method wherein performing an act upon the network data includes deleting email (column 1, lines 35-36).

34> As to claim 37, Salo teaches a method wherein performing an act upon the network data includes retrieving a web page (column 7, lines 3-7).

35> As to claim 38, Salo teaches a method wherein performing an act upon the data includes retrieving email messages (column 14, lines 26-33).

36> Claims 3-7 are rejected under 35 U.S.C 103(a) as being unpatentable over Salo and Hanson, in view of Wallach et al (hereinafter Wallach), U.S Patent No. 6,292,905.

37> As to claim 3, Salo does not teach a method wherein a database of the remote enterprise network is notified which of the multiple servers is the designated server, the designated server notifying the database when a data tunnel is established.

38> Wallach teaches a method wherein a database of the remote enterprise network is notified which of the multiple servers is the designated server, the designated server notifying the database when the data tunnel is established (column 8, lines 13-29 and claim 10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Salo's method to store the identity of the primary server in a separate database after the server establishes a connection with the database in order to better implement load-sharing and facilitate fail-over amongst the multiple servers of Salo's method (Salo, column 8, lines 55-58). By keeping the identity of the primary server on the database, the switchover process to a different server when the primary server fails can be done completely transparently to the user.

39> As to claim 4, Salo teaches a method wherein the access request is received by a designated telephony node of the data center, and wherein the user generates the access request using a telephone system (column 6, lines 12-14 and column 8, lines 18-30 – the data center's interface network is considered the telephony node as it communicates and interacts

with remote access devices which Salo discloses as PDAs, wireless phones and mobile computers).

40> As to claim 5, Salo teaches a method wherein the access request is received by one of multiple servers of the data center over the Internet, and wherein the access request is generated by the user using a device connected to the Internet (column 6, lines 10-17).

41> As to claim 6, Salo teaches a method wherein the designated telephony node of the data center transmits the access request to the designated server (Figure 1C, items 120 and 142 and column 8, lines 18-45).

42> As to claim 7, Salo teaches a method wherein the designated telephony node determines which of the multiple servers is the designated server by communicating with at least one of the multiple servers (column 9, lines 52-59).

43> Claim 8, 11, and 12 is rejected under 35 U.S.C 103(a) as being unpatentable over Salo, Hanson and Wallach as applied to claims 3, 4 and 6 above, in further view of McLaughlin, U.S Patent No. 6,138,049.

44> As to claim 8, Salo does teach a method wherein the designated telephony node communicates with the database (column 8, lines 12-15 and column 12, lines 27-32 - where the telephony node is located in the data center and the database is stored in the enterprise

network), but does not specifically teach a method wherein the designated telephony node determines which of the multiple servers is the designated server by communicating with the database.

45> McLaughlin teaches a method wherein the designated telephony node determines which of the multiple servers is the designated server by communicating with the database (column 2, lines 56-60, column 8, lines 7-36 and column 9, lines 9-15 – where the designated telephony node is the notification client, and communicates with the database through the notification manager and vice versa). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Salo so that the database communicated with the designated telephony node concerning the primary server so the system can immediately recover from a server failure without the need for a notification recovery request by the telephony node.

46> As to claim 11, Salo teaches a method wherein the act of transmitting the network data to the user includes the acts of:

transmitting the network data from the designated server to the designated telephony node (Figure 1C, items 120, 140, 142, 124 and 122 and column 8, lines 41-45); and

transmitting the network data from the designated telephony node to the telephone system used by the user (Figure 1C, items 120, 100, 122, 110, 104 and column 8, lines 8-11).

47> As to claim 12, Salo teaches a method wherein the act of transmitting the network data to the user includes the act of transmitting the network data from the designated server to the device that is connected to the internet (column 9, line 52 to column 10, line 4).

48> Claims 17 and 18 are rejected under 35 U.S.C 103(a) as being unpatentable over Salo and Hanson, as applied to claim 13 above, in view of Subramaniam et al (hereinafter Sumbramaniam), U.S Patent No. 6,081,900.

49> Subramaniam was cited by Applicant in IDS #8 on 10/8/2002.

50> As to claim 17, Salo does not teach a method wherein the reply data is received through port 443.

51> Subramaniam teaches a method wherein the reply data is received through port 443 (column 7, lines 42-46). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Salo's method so reply data is received through port 443 by the enterprise network for the convenience of specifying a dedicated port.

52> As to claim 18, Salo does not teach a method wherein the reply data is received using Secure Sockets Layer protocol.

53> Subramaniam teaches a method wherein the reply data is received using Secure Sockets Layer protocol (column 7, lines 30-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include SSL protocol in the communication between the enterprise network and the remote data center to provide increased security for transferring data.

54> Claim 19 is rejected under 35 U.S.C 103(a) as being unpatentable over Salo and Hanson, as applied to claim 13 above, in view of Roberts et al (hereinafter Roberts), U.S Patent No. 6,295,551.

55> As to claim 19, Salo does not teach a method wherein the reply data is received through port 80.

56> Roberts teaches it is well known in the art for port 80 to be used for the server to communicate over the web (column 10, lines 58-63, column 20, lines 1-9). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the ability for the enterprise network and its servers to connect to the data center for the reception and acceptance of data via a tunnel on port 80 because it would comply with standard used in HTTP communications and therefore insure proper communications with other servers on the internet.

57> Claim 20 is rejected under 35 U.S.C 103(a) as being unpatentable over Salo and Hanson, as applied to claim 13 above, in view of Bendinelli et al (hereinafter Bendinelli), U.S Patent No. 6,631,416.

58> As to claim 20, Salo does not teach a method wherein the act of transmitting the network data to the remote data center includes the acts of:

encrypting the network data to comply with Secure Sockets Layer protocol;

transmitting the network data to the remote data center through a second data tunnel, such that the transmission of the network data operates as a temporary virtual private network; and

closing the second data tunnel.

59> Bendinelli teaches a method wherein the act of transmitting the network data to the remote data center includes the acts of:

encrypting the network data to comply with Secure Sockets Layer protocol (column 25, lines 36-43);

transmitting the network data to the remote data center through a second data tunnel, such that the transmission of the network data operates as a temporary virtual private network (column 12, lines 15-33); and

closing the second data tunnel (column 12, lines 20-24).

It would have been obvious to one skilled in the art at the time the invention was made to modify Salo to include the Secure Sockets Layer protocol as another security

measure to prevent unauthorized intrusion; to transmit the data through a temporary tunnel operating as a temporary virtual private network for the purpose of short term data transfer so a long term connection does not need to be made and to close the tunnel when the data transfer is complete so bandwidth is not wasted.

60> Claim 24 is rejected under 35 U.S.C 103(a) as being unpatentable over Salo and Hanson, as applied to claim 23 above, in view of Bendinelli.

61> Salo does not teach a method wherein the act of receiving the network data from the remote enterprise network comprises the act of receiving through a second data tunnel the network data from the remote enterprise network, the second data tunnel operating as a temporary virtual private network and is closed after the network data is received by the data center.

62> Bendinelli teaches a method wherein the act of receiving the network data from the remote enterprise network comprises the act of receiving through a second data tunnel the network data from the remote enterprise network, the second data tunnel operating as a temporary virtual private network and is closed after the network data is received by the data center (column 25, lines 36-43, column 12, lines 15-33, and column 12, lines 20-24). It would have been obvious to one skilled in the art at the time the invention was made to modify Salo to include the Secure Sockets Layer protocol as another security measure to prevent unauthorized intrusion; to transmit the data through a temporary tunnel operating as a

temporary virtual private network for the purpose of short term data transfer so a long term connection does not need to be made and to close the tunnel when the data transfer is complete so bandwidth is not wasted.

63> Claims 25 is rejected under 35 U.S.C 103(a) as being unpatentable over Salo and Hanson, as applied to claim 23 above, in view of Subramaniam.

64> Salo does teach a method wherein the act of transmitting the access request to the remote enterprise network comprises the act of transmitting the access request using encryption, he does not expressly teach transmitting the access request using Secure Sockets Layer protocol.

65> Subramaniam teaches a method wherein the access request is transmitted using Secure Sockets Layer protocol (column 7, lines 30-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include SSL protocol in the communication between the enterprise network and the remote data center to provide increased security for transferring data.

66> Claim 36 is rejected under 35 U.S.C 103(a) as being unpatentable over Salo and Hanson, as applied to claim 34 above, in view of Pandharipande, U.S Patent No. 6,529,500.

67› Salo does not teach a method wherein performing an act upon the network data includes faxing the network data to the user.

68› Pandharipande teaches a method wherein performing an act upon the network data includes faxing the network data to the user (column 2, lines 27-43). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Salo's network to allow users to receive faxed data which increases the number of ways that the user may receive the requested data.

69› Claims 39-45 are rejected under 35 U.S.C 103(a) as being unpatentable over Salo and Hanson, in view of Shaheen et al, (hereinafter Shaheen), U.S Patent No. 6,032,227.

70› As to claim 39, Salo teaches a method in a data center capable of communicating with a remote enterprise network, for enabling a user to access network data of the remote enterprise network through a data tunnel between the data center and the remote enterprise network that operates as a virtual private network, the method comprising the acts of:

establishing a data tunnel with a remote enterprise network [Figure 6 | column 11 «lines 4-7»];

receiving network data from the remote enterprise network through a temporary data tunnel that is established between the data center and the remote enterprise network, the temporary data tunnel operating as a virtual private network (column 13, lines 1-6 and lines 15-16 and column 15, lines 1-8).

receiving an access request to access network data of the remote enterprise network from the user (column 6, lines 10-17);

retrieving the network data from the database in response to the access request (column 6, lines 43-46); and

transmitting the network data to the user (column 18, lines 11-14).

Salo does not teach caching a copy of the network data in a database of the data center or transmitting ongoing reply data to the remote enterprise network to keep the data tunnel open.

71› In the same field of invention, remote access of an enterprise network, Hanson discloses establishing a connection between a data center and a remote enterprise network [column 2 «lines 45-60»]. Hanson further discloses transmitting ongoing reply data to the remote enterprise network such that the connection is kept open [column 8 «lines 54-60» where : when the mobile end system loses its connection, the mobility server keeps the connection with the enterprise network active by acknowledging receipt of data, which is comparable to ongoing reply data], and that an access request from a user is transmitted using the pre-opened connection [Figure 2 | column 9 «line 55» to column 10 «line 7» | column column 27 «lines 37-39 and 43-45» where : when Hanson's mobile end system reestablishes its connection to the mobility server, the mobile end system continues to transmit requests using the previously opened connection with the remote enterprise network (fixed-end system) that was kept open by the mobility server].

It would have been obvious to one ordinary skill in the art to incorporate Hanson's

72> persistent connection functionality into Salo's data center. One would have been motivated to provide such an implementation to enhance Salo's ability to deal with dropped connections by its wireless device. Currently Salo handles dropped connections by simply trying to reestablish the tunnel [column 14 «lines 65-67»]; Hanson is clearly directed towards curing this deficiency by providing a means for establishing a persistent connection between a data center (Hanson's mobility server) and a remote enterprise network such that when the user's end system loses its connection, the connection to the enterprise network is pre-opened and data loss is kept to a minimum [see Hanson, column 2 «lines 8-17»].

73> Shaheen teaches a method of caching a copy of the network data in a database of the data center (column 3, lines 1-39 and column 5, lines 29-33). It would have been obvious one of ordinary skill in the art at the time the invention was made to modify Salo's data center with the ability to cache network data because mobile and wireless devices have a limited storage capacity and would be able to store information a central repository.

74> As to claim 40, Salo teaches a method wherein the network data of the enterprise network is disconnected from the enterprise network after the network data is received by the data center (column 11, lines 32-35 - where the enterprise network is combined into the data center. The network data is accessed during a session established with the web server (column 11, line 33). When the session ends, the network data is disconnected).

75> As to claim 41, Salo does not teach a method wherein the network data of the enterprise network is disconnected from the user after the network data is received by the data center.

76> Shaheen teaches a method wherein the network data of the enterprise network is disconnected from the user after the network data is received by the data center (column 2, lines 1-2 and column 5, lines 20-21). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Salo's method to allow for his mobile devices to be disconnected from the enterprise network so they do not have to remain connected to the data center permanently.

77> As to claim 42, Salo teaches a method wherein the user determines what network data is transmitted to the data center (column 6, lines 37-43) but does not teach a method wherein the user determines what network data is cached in the database.

78> Shaheen teaches a method wherein the user determines what network data is cached in the database (column 1, lines 64-67 and column 7, lines 10-16). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include user selection of cached data in Salo so the user can control what is stored at the data center and can decide what he wants to access at a later time if he disconnects from the network and can't store more data on his mobile device.

79> As to claim 43, Salo teaches a method wherein the act of receiving an access request to access network data of the remote enterprise network from the user further comprises the act of authenticating the identity of the user (column 9, line 12-20 and lines 40-46).

80> As to claim 44, Salo does not teach a method wherein the access request comprises a command to update network data.

81> Shaheen teaches a method wherein the access request comprises a command to update network data (column 1, lines 47-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include update functionality in Salo's data center so files can be kept current and any changes to the data can be stored.

82> As to claim 45, Salo does not teach a method further comprising the acts of updating the cached copy of network data, and transmitting update information to the enterprise network.

83> Shaheen teaches a method further comprising the acts of updating the cached copy of network data, and transmitting update information to the enterprise network (column 3, lines 39-42 - where the server is the enterprise network). It would have been obvious one of ordinary skill in the art at the time the invention was made to include the update and synchronization functionality of Shaheen in Salo so that data that is updated locally can be stored and synched with the enterprise network.

84> As to claim 46, Salo discloses having the remote enterprise network initiate a data tunnel to the data center, the data tunnel operating as a virtual private network [Figure 6, column 14 «lines 65-67»] but does not specifically disclose receiving a data request from the remote enterprise network or transmitting ongoing reply data to the remote enterprise network.

85> However, as Salo suggests the remote enterprise network initiating the establishment of the data tunnel to the data center, one of ordinary skill in the art would have reasonably inferred that the remote enterprise network would need to transmit some sort of request to the data center to establish the tunnel. Consequently, it would have been reasonable to also infer that the data center would transmit a response to the enterprise network to commit to the tunnel. Such tunnel functionality is well known in the art and one of ordinary skill in the art would have been motivated to perform such a modification to follow Salo's suggestion.

86> As to claim 47, Salo discloses updating network data [column 15 «lines 51-55»] but does not specifically disclose a command that performs the update.

87> Shaheen teaches a method wherein the access request comprises a command to update network data (column 1, lines 47-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include update functionality in Salo's data center so files can be kept current and any changes to the data can be stored.

88> As to claim 48, Salo does teach cached network data [column 11 «lines 15-23»] but does not specifically teach a method further comprising the acts of updating the cached copy of network data, and transmitting update information to the enterprise network.

89> Shaheen teaches a method further comprising the acts of updating the cached copy of network data, and transmitting update information to the enterprise network (column 3, lines 39-42 - where the server is the enterprise network). It would have been obvious one of ordinary skill in the art at the time the invention was made to include the update and synchronization functionality of Shaheen in Salo so that data that is updated locally can be stored and synched with the enterprise network.

Conclusion

90> Examiner believes that Applicant has not yet submited claims drawn to limitations, which define the method and apparatus of Applicant's disclosed invention in a manner which distinguishes over the prior art. The Examiner has interpreted the claims with scope parellel to the Applicant in the response and reiterates the need for the Applicant to more clearly and distinctly define the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dohm Chankong whose telephone number is (571)272-3942. The examiner can normally be reached on 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (571)272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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DC

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